

REMARKS

Claims 33 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kato et al. ("Kato") in view of U. S. Patent No. 5,987,554 to Liu et al. ("Liu"). Claims 34 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kato and Liu and further in view of U. S. Patent No. 5,257,106 to Maruoka et al. ("Maruoka") and U. S. Patent No. 6,560,282 to Tahara et al. ("Tahara"). Claim 37 stands rejected under 35 U.S.C. §103(a) over Kato and Liu and further in view of Tahara. Claim 39 stands rejected under 35 U.S.C. §103 (a) as being unpatentable over Kato in view of Tahara and Maruoka. Claims 38, 40-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kato, Tahara, Maruoka, and further in view of Liu and U. S. Patent No. 5,969,767 to Ishikawa et al. ("Ishikawa").

In order to reduce issues for consideration and to expedite allowance claims 33 and 36-37 are cancelled without prejudice or disclaimer. It is emphasized that the canceling of claims 33, 36-37 is without prejudice. Applicants expressly reserve the right to prosecute the subject matter of claims 33 and 36-37 in another application (e.g., a continuing application of the present application).

According to the *MPEP* §2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In order to sustain a rejection based on obviousness the Examiner must establish that the prior art teaches or suggests each and every element of a claim.

Pending independent claims 34, 35, 38, 39, and 40 stand rejected based on some combination of the references of Kato, Tahara and Maruoka and in the case of claims 34, 35, 39 and 40, Liu. While differentiated substantially, each of the independent claims recite elements relating to time divisionally multiplexing of a decoded control signal with picture signals.

In a final office action of November 21, 2005, the Examiner rejected claims 34, 35, 38, 39, and 40 under 35 U.S.C. §103(a) over the combination of various references including Kato, Liu and Maruoka.

In remarks accompanying the Request for Continued Examination filed May 22, 2006, the applicants presented arguments demonstrating that the Examiner had not presented evidence indicating that each and every element recited in claims 34, 35, 38, 39, and 40 was taught or suggested by the prior art.

In the present office action the Examiner does not repeat the grounds for rejection presented in the office action of November 21, 2005 and, therefore, indicates agreement with the applicants that sufficient grounds for sustaining a rejection were not presented in the final office action of November 21, 2005. In the present office action, the Examiner relies on the same art references (Kato, Liu, and Maruoka) as relied upon the office action of November 21, 2005 except that the Examiner makes further reference to Tahara. Applicants respectfully assert that even with the new reference to Tahara, the Examiner has failed to demonstrate that each and every element of applicants' claims is taught or suggested by the prior art of record.

Regarding claims 34, 35, 38, 39, and 40, each of claims 34, 35, 38, 39, and 40, recite elements relating to time divisionally multiplexing of a decoded control signal with picture signals. For example, claim 34 recites the combination of "a decoder to decode...a control signal" and "an encoder to time divisionally multiplex the picture signals in a video period and the control signal in a retrace period." Claim 35 recites the combination of "a decoder to decode...a control signal" and "an encoder to time

divisionally multiplex the picture signals in a retrace period." Claim 38 recites "a decoder to decode...a control signal" and further states that "the control signal is time-divisionally multiplexed in a retrace period." Claim 39 recites "a decoder to decode...a control signal" and further states that "the control signal is time-divisionally multiplexed in a retrace period." Claim 40 recites a "decoder to decode...a control signal" and further recites that "the control signal is time division-multiplexed in a retrace period."

The invention in its various forms as recited in claims 34, 35, 38, 39, and 40 provides significant advantages. For example, by time divisionally multiplexing a decoded control signal with a picture signals, a processing step of regenerating the control information from the base band signal is avoided. Accordingly, the invention as recited in claims 34, 35, 38, 39, and 40 facilitates reduction in circuit scale and enhancement of processing speed. Further, by avoiding superposing control signals on a base band signal, the invention as recited in claims 34, 35, 38, 39, and 40 allows there to be avoided adjusting signal lines and transmission rate to account for additional data being transmitted with a base-band signal.

Referring now specifically to claims 34, 35, 38, 39, and 40, applicants respectfully assert that the Examiner has failed again in the present office action to demonstrate that each and every claim element is shown or suggested in the prior art.

Regarding the element of time divisionally multiplexing of a control signal with picture signals (which is an element recited in some form in each of claims 34, 35, 38, 39, and 40) the Examiner in fact admits that the new reference relied upon; Tahara fails to teach such an element.

It is to be noted that Tahara fails to disclose the specifics of multiplexing the picture signals in a video period and the control signal in a retrace period. *Admission by Examiner, August 8, 2006 Office Action, p. 4.*

In an attempt to demonstrate that prior art suggests the time division multiplexing elements of applicants' claims, the Examiner continues to rely on the teachings of Maruoka, column 1 which states as follows:

In the B-MAC system shown in FIG. 1A, the digital audio signal and *independent data* are subject to binary or binary/quaternary conversion, time-divided in the base band during the retrace interval of the video signal, and frequency modulated together with the video signal. In the C-MAC system shown in Fig. 1B, the digital audio signal and independent data are time-compressed so that they can be time-division-multiplexed during the retrace interval of the video signal, and then modulated by phase-shift keying (PSK), and the retrace interval of the video signal is replaced with the PSK-modulated audio signal. The digital signal to be multiplexed is transmitted as a packet. The D2-MAC system shown in FIG. 1C operates as follows: When C-MAC television signals are to be transmitted by CATV (cable television), since the signals are wideband signals, they cannot be transmitted over the conventional cables. Therefore, the video signal is limited in band, and the digital signal to be multiplexed is reduced to half. Then, the video signal is modulated by VSB-AM, and the digital signal is time-division-multiplexed in the retrace interval of the video signal. (emphasis added) *Maruoka, U. S. Patent No. 5,257,106, column 1, lines 59-68 to column 2, lines 1-13.*

The relied upon section of Maruoka makes a reference to “independent data” but does not make any reference to a control signal time divisionally multiplexed in a retrace period as is specifically recited in claims 34, 35, 38, 39, and 40.

Notwithstanding Maruoka’s failure to reference a control signal, the Examiner concludes, without highlighting any evidence or support that the “independent data” of Maruoka is “control data” - - “Maruoka however discloses...multiplexing of audio signal and independent data (i.e., control data) during the retrace interval.” In the remarks accompanying the Request for Continued Examination submitted on May 22, 2006, the applicants’ traversed the Examiner’s reliance on Maruoka for establishing the time divisional multiplexing elements of applicants’ claims are suggested by the prior art. Specifically, the applicants requested the Examiner to explain why the Examiner believes that the “independent data” referred to in Maruoka satisfies applicants’ recited claim element of a control signal.

It is noted that in the office action of August 8, 2006 the Examiner, notwithstanding applicants’ respect for an explanation, provides no explanation why the Examiner believes that the reference to “independent data” in Maruoka is a reference to a “control signal.” Because the Examiner has not provided an explanation as to why the Examiner believes the reference to “independent data” is a reference to a control signal, it is respectfully asserted that the Examiner has indicated that the teachings of Maruoka cannot support the conclusion that the reference to “independent data” is a reference to “control signals “as recited in applicants’ claims.

Further regarding the Examiner's reliance on Maruoka, the Examiner will note that applicants' claims 34, 35, 38, 39, and 40 do not make reference to a "control signal" in a vacuum. The control signal as recited in claims 34, 35, 38, 39, and 40 is recited to be a control signal "generated based on [a] compressively coded signal." A requirement of the control signal as recited in claims 34, 35, 38, 39, and 40 is that the control signal is generated based on a compressively coded signal. If the Examiner will continue to maintain that the "independent data" referred to in Maruoka is a control signal, the Examiner is respectfully requested to further explain (in addition to explaining why the Examiner regards a reference to "independent data" to be a reference to a control signal) why the Examiner further believes that the independent data referred to in Maruoka is data that is "generated based on [a] compressively coded signal," as is required of the control signal referred to in claims 34, 35, 38, 39, and 40.

In summary, applicants' traverse the Examiner's reliance on Maruoka on at least two grounds. First, the Examiner has failed to demonstrate, and has not even attempted to explain the conclusions that Maruoka's reference to "independent data" is a reference to a control signal. Second, even if it could be demonstrated (which it has not) that Maruoka's reference to "independent data" is a reference to a "control signal," the Examiner has not demonstrated and has not even alleged that the independent data referred to in Maruoka is data that is generated based on compressively coded signal as is required in claims 34, 35, 38, 39, and 40.

In view of the above, applicants' traverse the rejections of claims 34, 35, 38, 39, and 40 under 35 U.S.C. §103 at least on the grounds that the Examiner has not demonstrated that each claim element is shown or suggested in the prior art. Specifically, the Examiner at least has not shown or suggested that the prior art teaches or suggests a control signal time divisionally multiplexed in retrace period in accordance with the specifically recited in claims.

The arguments noted above regarding Maruoka's failure to teach or suggest either a control signal or a control signal generated based on compressively coded

signal in accordance with the recitations of applicants' claims were presented substantially as summarized herein in a telephone interview dated December 5, 2006 ("the telephone interview"). A Communication to Record Substance of Interview recording the substance of the telephone interview is filed concurrently herewith and is incorporated by reference herein.

During the telephone interview, the Examiner admitted that Maruoka does not disclose a control signal as previously maintained by the Examiner; but rather, that Maruoka merely suggests a control signal as recited in the claims. The Examiner further conceded that Maruoka fails to disclose a control signal generated based on a compressively coded signal and admitted rather that Maruoka merely suggests a control signal generated based on a compressively coded signal. Based on the revised positions of the Examiner regarding Maruoka, the Examiner has admitted that Maruoka requires modification in order to satisfy the control signal related limitations of applicants' claims.

Given the Examiner's modified position regarding Maruoka (that Maruoka merely suggests the control signal related claim limitations and does not disclose them), the Examiner is respectfully reminded that it will not be sufficient for the Examiner to merely repeat the rejections of the previous office action if the Examiner wishes to maintain the rejections relying on Maruoka. In presenting a rejection based on a modification of a reference, the Examiner must present "a convincing line of reasoning supporting the rejection." *MPEP §2144*. The reasoning must be based on logic and sound scientific reasoning. *MPEP §2144*. Accordingly, if the Examiner wishes to further rely on Maruoka supporting the claim rejections, the Examiner is respectfully requested to present a convincing line of reasoning based on logic and sound scientific reasoning why the skilled artisan would be motivated to modify Maruoka in accordance with applicants' claims.

The applicants further traverse the rejections of claims 34, 35, 38, 39, and 40 on alternative grounds. Specifically, applicants further traverse the rejections of claims 34,

35, 38, 39, and 40 on the additional grounds that the Examiner has not properly established a motivation to combine references. Applicants respectfully assert that even if the references relied upon by the Examiner taught or suggested all of the limitations of applicants' claims (which they do not), the Examiner has not demonstrated within the requirements of controlling legal standards that there is motivation to combine the references relied upon in making the rejections. The strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. *In re Sernaker*, 702 F.2d 989, 994-95, USPQ 1, 5-6 (Fed. Cir. 1983). See *MPEP* §2144.

In attempting to establish that there is motivation to combine the references relied upon by the Examiner, the Examiner makes reference to a technical feasibility of the proposed combination. Specifically, the Examiner states:

It is noted that Tahara fails to disclose the specifics of multiplexing the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path as claimed. Maruoka however discloses a television signal receiver system as shown in Figure 1B, and teaches the conventional use of an encoder for time division multiplexing of audio signal and independent data (i.e., control data) during the retrace interval of the video signal, and the encoding of the picture signals and control signal into transmission path signals suited to the transmission path (i.e., the transmission of the multiplexed digital signal as a packet, see column 1, line 59 to column 2, line 13). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Liu et al, Maruoka, and Tahara et al. references in front of him/her and the general knowledge of time division multiplexing systems, *would have had no difficulty in providing* an encoder for time division multiplexing of control data during the retrace interval of the video signal, and the encoding of the picture signals and control signal into transmission path signals suited to the transmission path as taught by the combination of Maruoka and Tahara et al for the transmission system of Kato et al and Liu et al for the same well known time division multiplexing of video and associated data during the retrace period for transmission to a received purposes as claimed. (emphasis added) August 8, 2006 Office Action, pages 4-5.

It is respectfully asserted that the Examiner has applied an improper legal standard in attempting to establish that there is motivation to combine references. The technical feasibility of a combination is irrelevant to the inquiry as to whether there is a motivation to combine references. The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also

suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, cited in MPEP §2143.01. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed,” there must be a suggestion or motivation in the reference to do so. See *id.* at 682.

The only relevant inquiry is whether the skilled artisan would have had motivation to combine references. The Examiner’s arguments in support of the combination of Kato, Liu, Maruoka, and Tahara; however, relate to the technical feasibility of the combination, but do not consider whether the combination would be desirable in view of the teachings of the references.

It is further respectfully asserted that far from providing motivation to combine teachings of various references, the prior art teachings relied upon by the Examiner actually teach away from the invention as recited by the applicants. For example, referring to the newly relied upon reference, Tahara, it is believed that Tahara teaches away from the claimed invention. Regarding Tahara, it appears that the Examiner has taken the position that “encoding parameters” as referred to in Tahara relate to “control signals” as recited in applicants’ claims. However, referring to e.g., Fig. 30 of Tahara, and at column 24 (e.g., “...history information of four (=1,024/256) previous generations can be superposed on the macro block of video data for the luminescence and color-difference signals.”). Tahara teaches that encoding parameters of Tahara are carried by a base band video signal and for extracting of the encoding parameters there is required decoding of the base band signal. Such a processing involving superposing additional data on a base band video signal is precisely the type of processing applicants seek to avoid with the recited invention as recited on claims 34, 35, 38, 39, and 40 by time divisionally multiplexing of a control signal with picture signals according to the specific recitations of claims 34, 35, 38, 39, and 40. Further, it is noted that if Tahara were modified in accordance with the invention as recited in claims 34, 35, 38, 39, and 40 requiring time divisional multiplexing of a control signal in picture signal, the principle of operation of Tahara, requiring superposing of encoding parameters on a video signal would be changed. If the proposed modification or combination of the prior

art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) cited in *MPEP* §2143.01.

The Examiner will note that the applicants have added new claims 43-44. New claims 43-44 are believed to be allowable in that they recite a combination of elements not shown or suggested in the relied upon prior art. New claims 43-44 have recitations similar to claims 34, 35, 38, 39, and 40 together with additional recitations and the arguments for patentability presented as to claims 34, 35, 38, 39, and 40 are incorporated by reference as to new claims 43-44.

Regarding the claims discussed herein, the applicants' selective treatment and emphasis of independent claims of the application should not be taken an indication that the applicants believe that the Examiner's dependent claim rejections are otherwise sufficient. In fact, it is noted in the office action that the dependent claims are rejected without substantial, and in certain instances, without any reference to the limitations of the dependent claims in combination with the base claim elements. In rejecting claims for want of novelty or for obviousness, the Examiner must cite the best references at his/her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. 37 C.F.R. 1.104(c)(2). If the Examiner will maintain the rejections of the claims including the dependent claims, the Examiner is respectfully requested to specify which claims are being rejected when references are discussed. The Examiner is further respectfully requested to specify each claim, including each dependent claim in making the rejections in accordance with the requirements of 37 C.F.R. §1.104.

Also, while the applicants herein may have highlighted in certain instances specific elements of a claim for purposes of demonstrating an insufficiency of a claim

rejection, the applicants emphasis on a specific claim element for such limited purpose should not be taken as an indication that the applicants have asserted that a claim is allowable for its recital of a specific element out of the context of the combination of elements recited.

Arguments presented previously in a response dated May 22, 2006, regarding the Examiner's reliance on "Official Notice" are incorporated by reference herein.

Accordingly, in view of the above amendments and remarks, applicants believe all of the claims of the present application to be in condition for allowance and respectfully request reconsideration and passage to allowance of the application.

If the Examiner believes that contact with applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call applicants' representative at the phone number listed below.

The Commissioner is hereby authorized to charge any fees associated with this communication or credit any overpayment to deposit Account No. 50-0289.

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Respectfully submitted,

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